

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10 August 2009 has been entered.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 5-20,23-25,27,28,30-35 and 44-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over ABELE (US #5,403,311) in view of West et al (US 5,318,525) and further in view of Langer et al (US 6,004,295)

Regarding claim 1, Abele teaches "An injection catheter comprising: a catheter body (28) comprising a flexible tubing (30) having proximal and distal ends and at least one lumen (not labeled, Col 5 lines 47-65) there through; a tip section (e.g. 52) having a longitudinal axis and comprising a flexible tubing having proximal and distal ends,

wherein the proximal end of the tip section is mounted at the distal end of the catheter body (Fig 1, Fig 6); a needle control handle (17) at the proximal end of the catheter body; an injection needle (24) extending through the tip section, catheter body, and needle control handle and having a proximal end attached to the needle control handle and a distal end within the tip section, wherein the injection needle is longitudinally slidable within the tip section so that upon suitable manipulation of the needle control handle the distal end of the injection needle can extend distally beyond the distal end of the tip section in a direction along the longitudinal axis of the tip section to penetrate tissue generally facing a distal face of the tip section (Fig 1); an electrode lead wire having a first end electrically connected to the injection needle (26) and a second end electrically connected to a suitable monitoring apparatus or to a source of ablation energy (16), with a penetration monitoring electrode (26) mounted on the injection needle." See also Col 3, lines 25-52, and Col 4 lines 19-29, and Col 5 lines 53-55. As to the plastic tubing, Abele discloses that the injection needle comprises plastic tubing (34) which is a plastic (polyamide) insulating sheath. Fig 2.

Abele does not teach a puller wire and deflection control handle for controlling the deflection of the tip section or the penetration monitoring electrode fixedly mounted on the needle tip. West teaches a catheter with puller wire (44) connected to the distal end of a tip section of a catheter (16) and connected to a deflection control handle (24) which controls deflection of the catheter tip (Fig 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the puller wires of

West with the catheter of Abele in order to controllably steer the catheter through the vasculature to the desired treatment location in the body.

Langer teaches an injection needle which slides in and out of a catheter (Fig 4A-4C) which may have a penetration monitoring electrode (80, Fig 8A) fixedly mounted on the needle. See Col 8 lines 20-35. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the fixed penetration monitoring electrode of Langer with the catheter of Abele and West as an alternate design choice for penetration monitoring. Simple substitution of one device for another is within the skill of an ordinary worker in the art.

Regarding claims 9 and 11, Abele teaches the limitations of claim 1 above, with the substitution and/or addition of an electrode mounted on the injection needle being electrically isolated for the injection needle. (Col 8 lines 50-Col 9 line 5).

Regarding claim 23, the claim recites the same limitations as claim 1 without explicitly defining the tip section. Examiner takes the proximal end of the catheter to be equivalent to the tip section of claim 1; therefore claim 23 is rejected under Abele.

Regarding claims 2,3,24, and 25, the electrode can be mounted at the distal or proximal end of the injection needle (52, 56)

Regarding claims 5,6,27 and 28, Examiner takes the protective tube to be the cross-braided stainless steel filaments 30.

Regarding claims 7, 14, 19, and 46, Abele teaches the use of at least one additional electrode (Fig 10, 72 and 74)

Regarding claim 8, Abele teaches that the tip of the needle can be an electrode (Col 6 line 15)

Regarding claim 10, Abele teaches the use of a ring electrode (e.g. 26, Col 5 line 51)

Regarding the method claims 12, 13, 15, 17, 18, 20, 30-35, 44, 45, and 47, Abele describes various potential methods of use, disclosing all of the claimed methods. See "Summary of the Invention" and "Description of Preferred Embodiments."

group angiogenesis activators, angiogenesis inhibitors, and antiarrhythmic drugs."

As to claim 16, Abele teaches the limitations of claims 12 and 1, but only specifies the use of a "vasoconstrictor, sclerotic, topical anesthetic, or heat responsive drug."

Because Abele's catheter and the disclosed invention are both designed to be used to abate tissue in the heart, the selection of one drug over another is a matter of obvious design choice.

3. Claims 4 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abele, Langer and West as applied to claims 1 and 23 above, and further in view of COSMAN (US #4,966,597).

Abele and West teach the limitations of a catheter for introduction into cardiac tissues, but does not teach the use of a pair of copper and constantan wires used as a thermocouple probe.

Cosman teaches the use of a thermocouple composed of copper and constantan wires (elements 1 and 5) in a cardiac catheter (Fig 3).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the electrode thermocouple probe of Cosman with the cardiac catheter of Abele and West in order to facilitate "true surface temperature recording with fast response" (Cosman Abstract)

Response to Arguments

1. Applicant's arguments filed 10 August 2009 have been considered but are moot in view of the new grounds of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELIZABETH R. MOULTON whose telephone number is (571)272-9970. The examiner can normally be reached on part-time R and F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Simons can be reached on (571) 272-4965. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3767

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ELIZABETH R MOULTON/

Examiner, Art Unit 3767

/Kevin C. Sirmons/

Supervisory Patent Examiner, Art Unit 3767